UNITED STATES DEPARTMENT OF COMMERCE
National Telecommunications and Information Administration
Washington, D.C. 20230

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December 24, 1997

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W.
Room 222
Washington, D.C. 20554

Re: The Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements through the Year 2010 (WT Docket No. 96-86)

Dear Mr. Caton:

Enclosed you will find an original and nine copies of the comments of the National Telecommunications and Information Administration in the above-referenced proceeding. Please direct any questions you may have regarding this filing to the undersigned.

Thank you for your cooperation.

Respectfully submitted,

Kathy D. Smith
Acting Chief Counsel

Enclosures

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
The Development of Operational,	)	
Technical and Spectrum Requirements	)	
For Meeting Federal, State and Local	)	WT Docket No. 96-86
Public Safety Agency Communication	)	
Requirements Through the Year 2010	)	
	)	
Establishment of Rules and Requirements	)	
For Priority Access Service	)	

COMMENTS OF THE NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION

The National Telecommunications and Information Administration (NTIA), an Executive Branch agency within the Department of Commerce, is the President's principal adviser on domestic and international telecommunications policy, including policies relating to the Nation's economic and technological advancement in telecommunications. Accordingly, NTIA makes recommendations regarding telecommunications policies and presents Executive Branch views on telecommunications matters to the Congress, the Federal Communications Commission, and the public. NTIA, through the Office of Spectrum Management, is also responsible for managing the Federal Government's use of the radio spectrum. NTIA respectfully submits the following Comments in response to the Commission's Second Notice of Proposed Rulemaking in the above-captioned proceeding.[1]

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[1] *The Development of Operational, Technical and Spectrum Requirements For Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010 and Establishment of Rules and Requirements For Priority Access Service*, WT Docket No. 96-86, FCC 97-373 (rel. Oct. 24, 1997) (hereinafter "Second Notice").

I. Introduction

In the past several years, the Federal, State, and local public safety communities have directed significant attention towards identifying the communications needs of these agencies, including the need for additional spectrum for growth of existing voice systems, the need for additional spectrum to accommodate emerging technology for high-speed data and imaging systems, and the persistent need for better interoperability among public safety agencies at all levels of government. The growing need for spectrum and regulatory support prompted NTIA and the Commission to charter the Public Safety Wireless Advisory Committee (PSWAC) to examine the state of public safety communications and recommend solutions to meet the needs of the public safety community. The PSWAC Final Report,[2] the first comprehensive look at public safety communications in many years, outlined the collective requirements of Federal, State, and local public safety entities in five functional areas: operational requirements, technology, interoperability, spectrum requirements, and transition/funding issues. As one of its findings, the report determined that approximately 25 megahertz of new public safety allocations would be needed in the short term to satisfy public safety requirements and recommended that present spectrum shortages be met from Television Channels 60 to 69.[3] NTIA strongly supports the recommendations of the PSWAC Final Report regarding the reallocation of spectrum within Television Channels 60 to 69 to meet the short-term needs of the public safety community.

In July 1997, the Commission released a Notice of Proposed Rulemaking that proposed to reallocate 24 megahertz from Television Channels 60-69 (the 746-806 MHz band) to public

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[2] *Final Report of the Public Safety Wireless Advisory Committee to the Federal Communications Commission, Reed E. Hundt, Chairman, and the National Telecommunications and Information Administration, Larry Irving, Assistant Secretary of Commerce for Communications and Information* (hereinafter "PSWAC Final Report")(Sept. 1996).

[3] *See* PSWAC Final Report at 3.

safety.[4] NTIA's comments in that proceeding reiterated its strong support for the reallocation of 24 megahertz from the 746-806 MHz band for public safety use.[5] NTIA, in its comments, noted the need for Federal public safety agencies to have access to this spectrum so that interoperability at all levels of government could be achieved.

In response to the PSWAC Final Report, NTIA is in the process of analyzing its recommendations and developing plans to satisfy valid requirements. To help achieve this, NTIA formed a Public Safety Program to address and support the Federal public safety community and their goals for a interoperable, nationwide public safety communications system. Additionally, NTIA and the FCC formed a Joint Public Safety Working Group to address the goals of interoperability and shared-use systems and also to continue the dialogue and cooperation that was formed throughout the PSWAC process.[6]

NTIA applauds the Commission for its efforts to satisfy public safety spectrum requirements. NTIA, however, offers the following comments to specific issues raised in this

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[4] *Reallocation of Television Channels 60-69, the 746-806 MHz Band*, Notice of Proposed Rulemaking, ET Docket No. 97-157, FCC 97-245 (rel. July 10, 1997). NTIA notes that the recently enacted Balanced Budget Act of 1997 directs the Commission to allocate 24 megahertz of spectrum between 746 MHz and 806 MHz (Television Channels 60 to 69) no later than January 1, 1998, in consultation with the Secretary of Commerce and the Attorney General. *See* Section 3004 of the Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251 (1997) (adding a new section to the United States Code at 47 U.S.C. § 337). NTIA's comments in the current proceeding are not intended to supplant, in any way, the consultative process required by the new law.

[5] *See* NTIA Comments in *Reallocation of Television Channels 60-69, the 746-806 MHz Band*, Notice of Proposed Rulemaking, ET Docket No. 97-157, FCC 97-245 (rel. July 10, 1997). *See also* Letter from Larry Irving, Assistant Secretary of Commerce for Communications and Information to Commission Chairman Reed Hundt (Feb. 21, 1997) in *Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service*, Sixth Further Notice of Proposed Rule Making, MM Dkt. No. 87-268, 11 FCC Rcd. 10968 (rel. Aug 14, 1996), at 3-5.

[6] *See* Public Notice, *NTIA and FCC Announce the Formation of a Public Safety Communications Joint Working Group*, Federal Communications Commission, National Telecommunications and Information Administration (Aug. 5, 1997).

Second Notice that NTIA believes will likely have a direct and significant impact upon the future needs and operations of the Federal public safety community.

II. The Federal Government Should Have Access to the 24 Megahertz in the 746-806 MHz Band.

The Commission seeks comment on its proposal to divide the 24 megahertz of spectrum into two groups: interoperability spectrum and general use public safety spectrum. Interoperability spectrum would be used for different agencies to communicate across jurisdictions and with each other. The Commission proposes that the general public safety use spectrum be used to alleviate the shortage of channels available for public safety agencies, for internal communications, and to provide spectrum for new types of communications, such as image and video.[7]

NTIA agrees with the Commission's approach of dividing the spectrum into two categories. This approach balances the various needs of public safety agencies to have access to new spectrum to meet their needs for interoperability, day-to-day operations, or for emerging technologies, including video or data applications, and to relieve congestion in major metropolitan areas.

The Commission also seeks comment regarding which agencies should be eligible to use the spectrum in the 746-806 MHz band.[8] NTIA believes that Federal agencies should have access to this new band for both the interoperability and general use spectrum. Federal agencies' access to this spectrum will encourage implementation of shared and joint-use systems and the development of common date and imaging systems, and will ensure the highest degree of interoperability and spectrum efficiency.

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[7] *See* Second Notice at ¶ 108.

[8] *See id.* at ¶¶ 85-95.

NTIA's position is clearly supported by the mandate of Section 3004 of the Balanced Budget Act of 1997 in which Congress requires the Commission to consult with the Secretary of Commerce and the Attorney General in the reallocation of this 24 megahertz.[9] This mandate is indicative of Congress' recognition of the vital role that Federal agencies play in providing public safety services to the American people. It is also consistent with the conclusions of the PSWAC Final Report.[10]

Furthermore, the absence of any reference to Federal agencies within the definition of "public safety services" for purposes of the new Section 337 of the U.S Code is not intended to exclude Federal agencies' access to this spectrum, but is merely a recognition of the fact that the Commission does not assign licenses to Federal agencies. The new Section, in part, directs the Commission to "commence assignment of the licenses for **public safety services**" in the newly allocated 24 megahertz within a certain time frame.[11] "Public safety services" is therefore defined in such a way to be consistent with the Commission's authority to assign licenses only to State and local governmental entities and non-governmental users, thus preserving NTIA's role as the spectrum manager for Federal agencies.

NTIA urges the Commission to take this opportunity to allocate the 24 megahertz to enhance interoperability and shared use systems among all levels of public safety users, including

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[9] *See* Section 3004 of the Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251 (1997) (adding a new subsection to the United States Code at 47 U.S.C. § 337(a)(1) requiring such consultation).

[10] The PSWAC Interoperability Subcommittee (ISC), and ultimately the Steering Committee, adopted a definition of "public safety" which extends to all applicable functions of the government, including the Federal level. It defined "public safety" as "[t]he public's right, exercised through **Federal**, State or Local government as prescribed by law, to protect and preserve life, property, and natural resources and to serve the public welfare." PSWAC Final Report at 45 (emphasis added).

[11] *See* 47 U.S.C. § 337(b)(1) (emphasis added).

Federal agencies. At present, the Federal public safety community does not have any spectrum allocated for use in the 800 MHz band, where many State and local public safety systems now operate. Migration to the 800 MHz band by State and local public safety agencies continues. Unless the Commission facilitates Federal agencies' access to the newly allocated 24 megahertz in this proceeding, the goal of interoperability within the public safety community cannot be achieved in a meaningful way.

Moreover, by facilitating Federal agencies' access to this spectrum, the Commission will be taking an important step in the right direction of creating a nationwide interoperable network as outlined in the Office of the Vice President's National Performance Review Report.[12] It would also be consistent with the objectives of the follow-on initiative within the Public Safety Wireless Network (PSWN) Program.[13]

A. Federal Agencies Should Have Access to Spectrum for Interoperability.

Interoperability among all public safety agencies -- Federal, State and local -- is a core objective of the PSWAC Final Report recommendations.[14] Congress' support for interoperability across Federal, State and local governmental jurisdiction is demonstrated by another provision of the Balanced Budget Act. In Section 11712 of the Act, Congress directs the U.S. Attorney's Office to provide for telecommunications interoperability between 28 Federal law enforcement

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[12] *See* National Performance Review Information Technology Initiative 04, *Establish a National Law Enforcement/Public Safety Network* (Sept. 1993).

[13] *See* National Performance Review, Access America 06, *Establish the Intergovernmental Wireless Public Safety Network* (Feb. 1997).

[14] The PSWAC Final Report states that present limitations for interoperability can be eased by establishing bands of frequencies for interoperability purposes and encouraging the development and use of shared systems. *See* PSWAC Final Report at 3.

agencies and the Washington D.C. Metropolitan Police Department.[15] Cooperative agreements between these Federal agencies and the Metropolitan Police Department resulting from this provision may include, but are not limited to, Federal agencies sharing equipment with or donating equipment and supplies to the Metropolitan Police Department, and operating on shared radio frequencies with the Metropolitan Police Department.[16]

A recent example of the need to communicate across jurisdictions can be seen in the tragic loss of TWA Flight 800 near Long Island, New York. During the search and rescue operations, Federal, State and local agencies alike needed to communicate with each other in order to carry out an effective response to the disaster. The United States Coast Guard, one of the primary public safety agencies involved and the first on-scene responder, needed to communicate with State and local entities, as well as the Federal agencies involved in the recovery efforts. Public safety agencies had to resort to a make-shift solution to attain interoperability by handing out common radios so that all of the agencies involved were able to interoperate and coordinate efforts. Countless other examples, both of natural and man-made disasters, demonstrate the need for establishing interoperability bands for all public safety users at all levels of government.

B. Federal Agencies Should Have Access to General Use Public Safety Spectrum.

In the Second Notice, the Commission tentatively concludes that the spectrum not designated for interoperability , i.e., the general use spectrum, should be limited to non-Federal

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[15] *See* Section 11712 of the Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251 (1997). It should be noted that in this provision, Congress recognized the public safety mandates of Federal agencies other than those generally perceived to be traditional law enforcement agencies (*e.g.*, the Departments of Justice and Treasury) and included such agencies as the Government Printing Office Police, Federal Protective Service of the General Services Administration, and Bureau of Engraving and Printing Police Force. *See id.*

[16] *Id.*

public safety entities.[17] NTIA disagrees with this conclusion and believes that Federal users should be allowed to utilize these channels in a partnership or shared system environment. This would achieve greater spectrum efficiency and permit the pooling of scarce resources, including funds necessary to build systems, to invest in in infrastructure, and to cover maintenance costs. The proposed usage of this general use spectrum would be for new types of communications, such as image and video. Like the State and local public safety communities, Federal public safety agencies will also rely on data and video communications, such as the transfer of fingerprints, mug shots, or even slow/full motion video.

III. Location of Interoperability Spectrum

The Commission seeks comment on the location and amount of spectrum it proposes for interoperability purposes.[18] The PSWAC ISC recommended that 2.5 megahertz of spectrum below 512 MHz be identified for interoperability purposes.[19] NTIA supports designating some interoperability spectrum in the 746-806 MHz band. However, the vast majority of public safety spectrum used by either the Federal, State, and local government is located below 512 MHz. NTIA supports the concept that interoperability spectrum would be best utilized by the public safety community if it were divided among the current and proposed operating bands for public safety.

The PSWAC ISC noted that an interoperability band central to existing public safety bands would require that a relatively free band of frequencies, i.e., green space, be identified.[20] In the Second Notice, the Commission noted that freeing up spectrum below 512 MHz would be

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[17] *See* Second Notice at ¶ 120.

[18] *See id.* at ¶¶ 44-45.

[19] *See* PSWAC Final Report at 52.

[20] *See id.*

a difficult endeavor.[21] NTIA is committed to working with the Commission, through the Joint NTIA/FCC Public Safety Working Group, to find a possible solution that would enhance interoperability throughout current and proposed public safety spectrum allocations.

IV. Types of Communications

The Commission seeks comment on the types of communications permitted in the 746-806 MHz band for both the interoperability and general use spectrum. The Commission proposes to categorize communications into four groups: voice, data, image/high speed data, and video.[22] NTIA agrees with the Commission on the four general types of communications. An array of technologies will better enable public safety entities to perform their functions and serve the public in a meaningful way.

The Commission also asks for comment regarding how much spectrum would be needed for each type of communication that is proposed.[23] It may be obvious that the initial need is for voice systems in spectrum congested metropolitan areas, but the aggregate need of the community includes emerging services such as low/high speed data, video, and growth spectrum for regional integrated systems. NTIA believes that this issue of allocating specific amounts of spectrum for specific types of communications should be based on the needs of the user community.

V. Management and Administration

The Commission concludes that the establishment of nationwide interoperability will be in the public interest.[24] NTIA believes that spectrum that is set aside for interoperability would

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[21] *See* Second Notice at ¶ 43.

[22] *See id.* at ¶¶ 46, 127.

[23] *See id.* at ¶ 52.

[24] *See id.* at ¶ 44.

best be planned on a national basis in order to achieve seamless interoperability and orderly development of a National Public Safety Wireless Network. Development of overall plans, guidelines and policies must be done on a national basis, with regional input. Participation by Federal, State, and local entities would be necessary to develop a common interoperability plan that would provide strict guidelines as to the usage of the interoperability spectrum. The PSWAC ISC specifically recommended "that a national planning process be established as soon as possible to address a nationwide mutual aid plan, define operational policies and procedures, provide guidance and procedures for regional planning processes, and defining incident command system requirements with all levels of government involved."[25] NTIA offers participation as a partner in a national planning effort.

VI. Standards and Technology

The Commission asks a number of questions regarding standards and technology (analog vs. digital, channel spacing, bandwidth, stability, etc).[26] As complex as these issues are, NTIA feels that the three areas of vital importance to Federal agencies are the adoption of technology, performance and interference protection, and interoperability standards.

A. The Commission's Rules Should be Technology Neutral.

It has always been NTIA's belief that the user is best equipped to determine which technology best suits their particular needs. NTIA's position is that the regulator's job is to enable the use of the appropriate technology by: (1) making sufficient spectrum available to accomplish the mission; (2) ensuring that the use meets minimum spectrum efficiency

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[25] *See* PSWAC Final Report at 52.

[26] *See* Second Notice at ¶¶ 71, 159.

guidelines;[27] (3) ensuring adequate protection from harmful interference; and (4) establishing rules that allow for flexible use of the spectrum including such concepts as joint/shared use on a national, regional, or local basis. With these guidelines in mind, NTIA does not intend to dictate the type of technology that Federal agencies should use and remains technology neutral in this case.

B. The Commission Should Encourage the Development and Adoption of Interoperability Standards by Public Safety Agencies.

NTIA encourages the development and adoption of interoperability standards by public safety agencies. Without such standards, true interoperability will be difficult to achieve. We endorse the PSWAC recommendation to establish a minimum baseline standard and further suggest that narrowband FM be adopted as the near-term solution with the long-term solution being determined by a recognized industry/user standards organization. NTIA believes that any equipment in the interoperability spectrum must have minimum, uniform characteristics or an interoperability mode so that maximum efficiency can be realized. NTIA supports 12.5 kHz channel spacing and bandwidth, consistent with our mandate for future Federal agency land mobile operations.[28] Although NTIA does not currently mandate an interoperability standard, we encourage Federal agencies to adopt voluntarily industry/user developed standards to ensure interoperability among Federal agencies and would consider minimum baseline standards for interoperability.[29] Along those lines, the Federal Government, in its standards efforts within the

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[27] For Federal agencies, NTIA requires 12.5 kHz or equivalent per voice or low speed data channel. *See e.g.*, National Telecommunications and Information Administration, *Land Mobile Spectrum Efficiency-A Plan for Federal Government Agencies to Use More Spectrum-Efficient Technologies*, NTIA Report 93-300 (Oct. 1993).

[28] *See* NTIA Report 93-300, note 27 *supra.*

[29] Furthermore, Federal agencies are also encouraged to use voluntary standards adopted by industry, for regulatory and procurement purposes, including standards related to

Federal Telecommunications Standards Committee (FTSC), has realized the need for guidance on this issue and has published voluntary standards that deal with digital land mobile radio systems procured by Federal Agencies.[30] These Federal Telecommunications Recommendations allow Federal agencies to specify standardized procurement to encourage greater competition and provide for an interoperability path.

C. NTIA Urges the Commission to Adopt Receiver Performance Standards Consistent with Appropriate NTIA and TIA Standards.

NTIA has long been a proponent of receiver performance standards as a means for managing the radio spectrum effectively and efficiently.[31] The Manual of Regulations and Procedures for Federal Radio Frequency Management outlines such standards and sets minimum performance criteria for Federal Agencies to follow.[32] These standards, such as receiver adjacent channel selectivity, spurious and intermodulation rejection, and receiver stability, serve the purposes of mitigating potential interference and allowing for more efficient use of the spectrum. Receiver standards have been recognized by the industry for years as necessary to effective spectrum management. The Telecommunications Industries Association (TIA) has set these standards for analog and first generation digital land mobile systems and continues to refine them

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telecommunications by other policies of the Administration. *See* Office of Management and Budget (OMB) Circular A119.

[30] *See* Federal Telecommunications Recommendation, FTR 1024A-1997, *Project 25 Radio Equipment*, National Communications System (April 1997).

[31] *See e.g.*, NTIA Reply Comments to the Notice of Proposed Rulemaking, *Part 87 of the Commission's Rules to Establish Technical Standards and Licensing Procedures for Aircraft Earth Stations*, PR Docket No. 90-315 (Oct. 1990) at 8; *see also* NTIA Reply Comments to the Notice of Proposed Rulemaking, *Amendment of the Commission's Rules to Provide for Unlicensed NII/SUPERNET Operations in the 5 GHz Frequency Range*, ET Docket No. 96-102 (Aug. 1996).

[32] National Telecommunications and Information Administration, U.S. Department of Commerce, *Manual of Regulations and Procedures for Federal Radio Frequency Management*, Sept. 1995 (revised May 1997).

as new digital systems are introduced. The Commission correctly notes that poor quality receivers could impede communications on the interoperability channels.[33] NTIA encourages the Commission to adopt receiver standards consistent with the appropriate NTIA and TIA standards.

VII. Conclusion

It is of vital importance to the future of public safety interoperability and cooperation that the Commission keep an open mind in the development of the Report and Order for this proceeding. In developing these rules, NTIA encourages the Commission to seriously consider these major points: (1) the need for Federal Agency access to the public safety spectrum addressed in this docket for interoperability and shared use systems; (2) the urgent need for interoperability at all levels of government; (3) the need for planning at a National level to achieve an effective interoperability solution; and (4) the pressing need for minimum interoperability standards and receiver performance standards.

NTIA applauds the Commission for taking the steps necessary to satisfy existing shortfalls in public safety spectrum and strongly suggests that the need for interoperability and joint-use communications among Federal, State and local public safety user be duly considered. By doing so, all levels of public safety will be able to better protect the life and property of the American people. Furthermore, NTIA looks forward to working in consultation with the Commission and the Attorney General to improve interoperability between the Federal, State, and local public safety agencies and encouraging and exploring more shared and joint-use systems.

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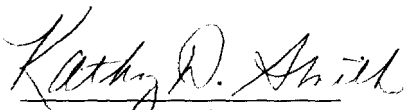
[33] *See* Second Notice at ¶ 71.

For the foregoing reasons, NTIA respectfully submits these comments.

Respectfully submitted,



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